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ORIGINAL ARTICLE

The Prevalence of *Salmonella Enteritidis* in Packaged and Tray Eggs Samples, Qazvin, Iran

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KEYWORDS

Salmonella;
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ABSTRACT: *Salmonella* serotypes are considered as one of the most important foodborne pathogens. Eggs are a main source of the contamination caused by these pathogens and diseases in humans and the prevalence of the salmonellosis. This study was aimed to isolate *Salmonella* enteritidis from industrial eggs collected from different areas of Qazvin city, Iran in the year 2020.In this cross-sectional study, 200 eggs were collected randomly (including 100 industrial packaged eggs and 100 industrial tray eggs) from the retail and stores located in Qazvin city, Iran. After culturing of eggshells and egg contents according to the classic methods, suspected colonies were confirmed by PCR assay. *Salmonella* was detected in 10% (4/40) among the egg samples. *Salmonella* was isolated from 0% (0/40) and 10% (4/40) of eggshells and egg contents, respectively. Isolates from positive egg samples were characterized as S. Typhimurium.*Salmonella* Typhimurium is the most prevalent serotype of egg contamination in Qazvin city, Iran. It can be regarded as the risk evaluation of possible human foodborne diseases associated with the consumption of contaminated eggs.

INTRODUCTION

Egg is nutritious in the human's diet and it is in the food pyramid because of its protein content [1-2]. Microbial contaminated eggs are a known source of *Salmonella*, leading to foodborne diseases [3-4]. *Salmonella* with diversity in serovars has been isolated from eggs in developed and developing countries like, China, Nigeria, Cameroon, Ethiopia, Egypt, United States, Japan, Iran, and England [5-13].

Salmonella infection of eggs occurs in two ways, including 1) contamination of the egg content or direct contamination before shell formation laid by invasion to ovaries and oviducts, and 2) contamination of the shell surface or

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